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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/718,346

11/24/2000

Masanori Iwahashi

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12/20/2002

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EXAMINER

PARKER, KENNETH

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/718,346

Applicant(s)

IWAHASHI, MASANORI

Examiner

Kenneth A Parker

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2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Grove et al US005608468A .

As described in the abstract "A spatial light modulator with hexagonal elements or pixels. The elements include a reflective hexagonal surface supported by flexible hinges. The hinges are in turn supported by support posts away from a substrate. On the substrate are control or address electrodes which control the direction of deflection of the reflective surface by selective build up of electrostatic forces. The use of hexagonal pixels allow the posts and electrodes to be arrayed in horizontal lines, thereby allowing reset of horizontal lines of the pixels". As shown in the figure (cover), the hexagonal shaped pixels have edges at 45 degrees, and can therefore be considered to be arranged to run in rows at 45 degrees the drivers. Therefore, these claims are anticipated by Grove et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parks US005355251A .

As described in the abstract "A liquid crystal display (LCD) of high visual quality and having a high density wiring arrangement is provided. The LCD can accommodate up to four addressing and/or control conductors placed across the display and between columns and rows of display electrodes. If four conductors are utilized, those conductors can be arranged as a stacked pair placed between rows and a stacked pair placed between columns of display electrodes. At areas where one stacked pair of conductors intersect the other, a plurality of cross-over regions exists which provide vias for routing the conductors through the region as well as for connecting the conductors to a control circuit within each region". As shown in the figure (cover), the hexagonal shaped pixels have edges at 45 degrees, and can therefore be considered to be arranged to run in rows at 45 degrees the drivers. Lacking from the disclosure is the device having reflective pixels. Such was notoriously well known for enabling non-back lit displays (low power advantage), and high brightness, and would have been obvious for that reason.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parks US005355251A in view of Grove et al US005608468A.

Lacking is the conversion. Format conversion to fit displays was conventional, as it realistically had to be done to display images on the different formats that are

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available. Grove et al evidences this, discussing formatting (conversion) for the layout employed: "One possible configuration of a multi-format display system appears in FIG. 1. The system 10 includes, but is not limited to, a tuner/pre-processing unit 114, a processor unit 116, a spatial light modulator 118, illumination source 120, display surface 128, and optical systems 122 and 124. The incoming signal enters the system via line 112. Depending upon the video delivery method, either via transmission (wires, cable) or distribution (CD, video tape), and the location of the video production (U.S., Japan, Europe), the incoming signal will have widely varying formats and signal presentations. For the purpose of discussion, we will refer to the system configuration which receives data in the US via transmission (i.e. US-HDTV and NTSC inputs). (3) After the data enters the system, it is received and filtered in tuner/preprocessor unit 114. The signal can then be passed to the processing unit 116, or the processing functions can be divided between tuner/preprocessor 114 and processing unit 116. For discussion purposes, the functions will be arbitrarily divided between the two units. In the case of an analog input signal, unit 114 accomplishes the digitization of the signal and performs any signal conditioning such as NTSC decoding, color space conversion or filtering for sharpness, etc. (4) The data is then passed to processor unit 116. Processor unit 116 then converts the data into the proper format for display on a selected spatial light modulator. For a reference point, a spatial light modulator of 2048 pixels across.times.1152 pixels down will be assumed, which corresponds to the highest resolution format currently proposed for HDTV, having a 16:9 aspect ratio. It is also assumed that the SLM has "square" or 1:1 aspect ratio pixels. As an example, if

960 line data of a format that has been proposed for US-HD transmission is to be presented at the proper 16:9 aspect ratio the data must be converted to have 1707 pixels per line. Digital processing must be performed to do this conversion even though US-HD is transmitted in digital, "prepixelized" form, since the standard transmits less than 1500 pixels on each of the 960 lines. Without digital conversion of the 1500 pixels to 1707 pixels, an apparent vertical elongation of objects, by about 15%, will occur on the display. No matter what final data format is chosen for US-HDTV, digital scaling will be necessary if non-square pixels are distributed, a highly likely prospect due to the bandwidth limitations of the 6 MHz NTSC channels", and more discussion is employed elsewhere in the document. Therefore, it would have been obvious to employ conversion as claimed as to do so was conventional to enable display of different format images.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

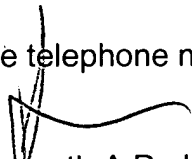
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L. Sikes can be reached on 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker
Primary Examiner
Art Unit 2871

December 14, 2002